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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,653

07/07/2006

Arno Schubert

PF040002

5468

24498 7590 07/06/2010
Robert D. Shedd, Patent Operations
THOMSON Licensing LLC
P.O. Box 5312
Princeton, NJ 08543-5312

EXAMINER

BROOKS, JERRY L.

ART UNIT

PAPER NUMBER

2878

MAIL DATE

DELIVERY MODE

07/06/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,653	Applicant(s) SCHUBERT ET AL.	
	Examiner JERRY BROOKS	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/05/2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Breenmen (4,512,631).

With respect to claim 1, Van Breenmen discloses projection display device comprising (fig.1): means of projecting an image (12) onto a screen (see 17,18,20 and 16) having an output axis called a main axis (the main axis is horizontal and perpendicular to the plane defined by the screen), the screen comprising at least one optical plate (see 17,18, and 20), wherein characterized in that the optical plate (see 17,18 and 20) comprises: on a first side (side of 1, a first set of different optical elements (17) designed to bend rays of a non-collimated light received from said image projection means into a beam of rays (Fresnel lens 17 collimates the light of 12) that are essentially parallel to a first direction in a plane containing the main axis (the rays inside the optical plate are essentially parallel to a first direction as defined by the rays as lie in the plane of the main axis: see col.4, lines 19-24), on a second side (20), a

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second set of prismatic elements (see prismatic elements on 20) with identical section or a holographic device for bending said beam in a second direction different (the second direction as defined by light exiting the optical plate) from the first direction (see fig.4 wherein the first direction is different from the second direction) .

With respect to claim 2, Van Breenmen discloses projection display device comprising the device as claimed in claim 1, wherein the second side comprises a second set of prismatic elements with identical section (see second side (20) with an identical section), at least some of the prismatic elements (see fig.1) comprising a first side (17) having an orientation such that the rays in the first direction (a first direction as defined by the rays as lie in the plane of the main axis discussed above) are refracted in the second direction (the second direction as defined by light exiting the optical plate in fig.4).

With respect to claim 3, Van Breenmen discloses the device as claimed in claim 2, wherein at least some of the prismatic elements (the prismatic elements on side 20) comprise a second side having a side that is essentially parallel to a side of the first optical element in said plane (the bases of the triangles of the prismatic elements (a second side 20) is *essentially* parallel to a side of the first optical element in said plane (base of the triangles of the prismatic elements of the first side 17)).

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With respect to claim 4, Van Breenmen discloses the device as claimed in claim 1, wherein the second side includes a holographic device (see the holographic device of 20) to bend the beam in the second direction (the second direction as defined by light exiting the optical plate).

With respect to claim 5, Van Breenmen discloses an optical plate (fig.1) wherein said plate has symmetry of revolution about the main axis (the optical plate is a circular Fresnel) lens and therefore has an axis of symmetry (see fig.2 to see what is meant by circular Fresnel lens) about the main axis in which the second direction is directed *essentially* in line with the main axis (see fig.2 and light beams 26 and 27).

With respect to claim 6, Van Breenmen discloses the device as claimed in claim 1, wherein the optical elements are designed to bend the rays of the non-collimated beam by refraction (implicitly disclosed by the operation and structure of a circular Fresnel lens: see fig.2).

With respect to claim 7, Van Breenmen discloses an optical plate (fig.1; 17,18, 20) wherein characterized in that the optical elements of first set (elements of 17) each include a side designed to reflect the rays from the source in the first direction (implicitly disclosed by the structure and operation of a circular Fresnel lens; also see col. lines 19-24).

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With respect to claim 8, Van Breenmen discloses the device as claimed in claim 1, wherein in that the first set of optical elements (17) is designed to bend rays received from projection means into a beam of rays forming an angle less than or equal to 3° with the first direction (the first direction as defined by the rays inside the optical plate of fig.4 is parallel to the bent rays received from the projection mean and thus the bent ray for an angle less than 3 degrees).

With respect to claim 10, Van Breenmen discloses the display device as claimed in claim 1, wherein characterized in that the projection means (12) are such that the rays (see the ray of fig.1) are received by the optical plate with orientations (implicitly disclosed by the structure of the rear projection device) relative to the general direction of the optical plate varying over a continuous range of non-zero orientations relative to the main axis (implicitly disclosed by non-collimated light of rear projection device : see col.4, lines 19-24) and in which the first direction (as defined by the light ray inside the optical element: see fig.4) corresponds to one of the orientations of said continuous range (see fig.4, the first direction corresponds via the angle through which the entering light beam bends).

With respect to claim 11, Van Breenmen discloses an optical plate for projection device comprising image projection means having an output axis called a main axis, wherein said plate comprises (see fig.1):, on a first side, on a first side set of different

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optical elements (17) designed to bend rays received from said image projection means into a collimated beam of rays that are essentially parallel to a first direction in a plane containing the main axis (see col.4, lines 19-24, which discloses rays 26 and 27 being collimated by 17), on a second side, a second set of prismatic elements (see prismatic elements on 20) with identical section or a holographic device for bending said beam in a second direction different (the second direction as defined by light exiting the optical plate) from the first direction (see fig.4 wherein the first direction is different from the second direction) .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Breenmen (4,512,631) in view Mitsutake et al. (5,208,620).

With respect to claim 1, Van Breenmen discloses the device as claimed in claims 1, but does not disclose wherein characterized in that the second direction forms an angle greater than or equal to 10° with the first direction.

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Mitsutake discloses a optical plate wherein characterized in that the second direction (light exiting optical plate fig.3b) forms an angle greater than or equal to 10° with the first direction (light inside optical plate fig.3b forms an angle greater 10 degrees with light inside the plate).

It would have been obvious at the time of invention to modify the optical plate of Van Breenmen with the optical plate of Mitsutake et al. (5,208,620) to improve the image quality.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY BROOKS whose telephone number is (571)270-5711. The examiner can normally be reached on Monday-Friday, 9 a.m.- 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JERRY BROOKS/
Examiner, Art Unit 2878

/Georgia Y Epps/
Supervisory Patent Examiner, Art
Unit 2878